

Appl. No. 10/579,851
Amdt. dated February 11, 2008
Reply to Office action of November 9, 2007

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claims 1-10. (Canceled)

11. (Currently amended) In an An apparatus for feeding fuel from a tank to an internal combustion engine comprising: [[,]] having

a feed pump,

a pressure line leading from the feed pump to the engine,

a check valve located in the pressure line downstream of the feed pump, and

a pressure sensor fluidically communicating with the pressure line and generating a measurement signal corresponding to the measured pressure,

the improvement wherein the pressure sensor is being operatively connected to the pressure line downstream of the feed pump and upstream of the check valve,

the feed pump and the pressure sensor being located in the tank, and

an electronic controller for determining the pressure in the pressure line and the pressure in the tank as a function of the measurement signal supplied to the controller.

Claim 12. (Canceled)

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13. **(Previously presented)** The apparatus in accordance with claim 11, wherein the pressure sensor has a temperature sensor.

14. **(Currently amended)** A method for pressure detection, employing an apparatus for feeding fuel from a tank to an internal combustion engine, a feed pump, a pressure line leading from the feed pump to the engine, a check valve located in the pressure line downstream of the feed pump, ~~and~~ a pressure sensor fluidically communicating with the pressure line and an electronic controller, the method comprising

operatively connecting the pressure sensor to the pressure line downstream of the feed pump and upstream of the check valve,

transmitting a measurement signal representing the measured pressure in the pressure line from the pressure sensor to the electronic controller,

~~and using the pressure sensor for pressure detection in the pressure line and for pressure detection in the tank~~ determining the pressure in the pressure line during a first operating status and the pressure in the tank during a second operating status
using the measurement signal transmitted to the controller.

15. **(Previously presented)** The method in accordance with claim 14, wherein the feed pump and the pressure sensor are located in the tank.

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16. (Currently amended) The method in accordance with claim [[4]] 14, including the step of regulating the feed pump using the measurement signal transmitted to the controller wherein the pressure sensor produces a measurement signal, and wherein the measurement signal is used in an engine controller as a controlled variable for regulating the feed pump and/or for a leak diagnosis in the pressure line and/or for a tank leak diagnosis.

Claims 17-20. (Canceled)

21. (New) The method in accordance with claim 14, including the step of determining the presence of a leak in the pressure line downstream of the check valve and/or in the tank using the measurement signal transmitted to the controller.

22. (New) The method in accordance with claim 16, including the step of determining the presence of a leak in the pressure line and/or in the tank using the measurement signal transmitted to the controller.

23. (New) The method in accordance with claim 21, wherein the step of determining the presence of a leak in the tank includes the steps of measuring the course of pressure in the tank over time and transmitting the measured signals to the controller.

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24. (New) The method in accordance with claim 21, wherein the step of determining the presence of a leak in the tank includes the step of generating a signal indicating the presence of a leak in the tank if, after a predetermined diagnosis time, a pressure change is measured that is greater than a predetermined pressure change, and there is an overpressure or underpressure in the tank before the beginning of the tank leak diagnosis.

25. (New) The method in accordance with claim 21, wherein the step of determining the presence of a leak in the tank includes the step of generating a signal indicating the presence of a leak in the tank if, after a predetermined diagnosis time, a pressure change is measured that is less than a predetermined pressure change, and there is atmospheric pressure in the tank before the beginning of the tank leak diagnosis.

26. (New) The method in accordance with claim 21, wherein in the step of determining the presence of a leak in the pressure line downstream of the check valve includes the step of generating a signal indicating the presence of a leak, if the measurement signal of the pressure sensor drops below a predetermined value.